

REMARKS

Claims 1-30 are pending in the application. The Applicant has cancelled claims 1-15 and amended independent claim 16 to correct the spelling of the word “moiré.” No other amendments to the claims have been made and no substantive changes have been made to the remaining claims, i.e., claims 16-30.

Claim 16 is directed to an object of value comprising: a carrier layer, at least one optical security element which is disposed on the carrier layer and which has a first layer containing a moiré pattern, and two or more secondary layers which each contain a respective moiré analyzer for the moiré pattern of the first layer. A first secondary layer is arranged on the same side of the carrier layer as the first layer and a second secondary layer is arranged on the opposite side of the carrier layer so that a first moiré image is visible when viewed in transmitted light and a second moiré image is visible when viewed in incident light. A pattern formed by repeating structures acts as the moiré analyzer.

The embodiment of the present invention found in claim 16 is described in the specification at page 13, line 18 to page 14, line 9 as follows:

A further embodiment by way of example of the invention will now be described with reference to FIGS. 5a to 5c.

FIG. 5a [reproduced below] shows a banknote 15 which comprises the carrier 1, the layer 21, the layer 31 and a layer 33. The layers 21 and 31 are like the layers 21 and 31 shown in FIG. 1, that is to say the layer 21 contains a moiré pattern and the layer 31 contains a moiré analyser. The layer 33 is like the layer 22 shown in FIG. 2 and contains a moiré pattern which acts as a moiré analyser or as a moiré pattern superimposed on the moiré pattern 21. In the embodiment shown in FIG.

5a the carrier 1 is transparent or semitransparent at least in the region in which the layer 21 is applied.

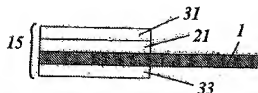


Fig. 5a

When viewing the arrangement in incident light, the result is the effect shown in FIG. 5b [reproduced below]:

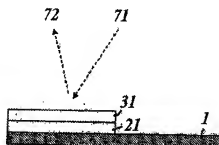


Fig. 5b

Incident light 71 passes through the layers 31 and 21, is reflected and then determines the impression given to the viewer. Here there is the effect already described with reference to FIG. 1, that a moiré image 72 becomes visible to the viewer, that image being determined by the superimposition of the moiré pattern of the layer 21 and the moiré analyser of the layer 31.

The effect shown in FIG. 5c [reproduced below] is produced when viewing in transmitted light:

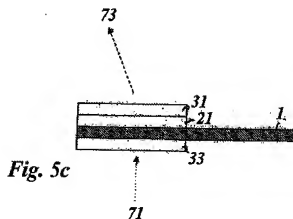


Fig. 5c

The incident light 71 passes through the layers 31, 1, 21 and 31, so that the viewer sees a moiré image 73 which is produced by the superimposition of the moiré patterns of the layers 31 and 21 and the moiré analyzer 31.

Thus, claim 16 requires: a carrier layer 1, at least one optical security element 21, which has a first layer containing a moiré pattern, and two or more secondary layers 31, 33 which each contain a respective moiré analyzer for the moiré pattern of the first layer. See FIG. 5a above.

After carefully considering the final Office Action mailed on September 15, 2008, the Applicant responds to the issues raised therein as follows:

Claim Rejections – 35 USC § 102

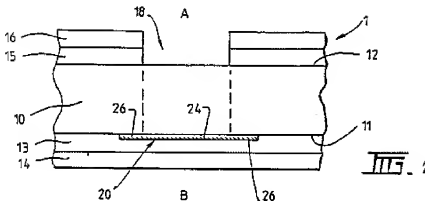
Claims 1-6, 8, 10, 15-21, 23, 25 and 30 have been rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent Application Publication No. 2002/0027361 to Hardwick et al. (“Hardwick”), which discloses a security device for a banknote. Claims 1-15 of the present application have been cancelled. Claims 16-30 are now pending.

At the bottom of page 4 and continuing to the top of page 5 of the Office Action, claim 16 has been found to be anticipated by Hardwick as follows:

Regarding claim 16, Hardwick anticipates an object of value comprising: i) a carrier layer (see abstract; note that the security document is a bank note); ii) at least one optical security element (see paragraph 37, lines 1-2) which is disposed on the carrier layer (see paragraph 37, lines 2-5) and which has a first layer containing a moiré pattern (see paragraph 22, lines 1-6); and iii) two or more secondary layers which each contain a respective moiré analyzer for the moiré pattern of the first layer (see fig. 6), and a first secondary layer is arranged on the same side of the carrier layer as the first layer (see fig. 6) and a second secondary layer is arranged on the opposite side of the carrier layer (see fig. 6) so that a first moiré image is visible when viewed in transmitted light (see paragraph 23, lines 1-5), and a second moiré image is visible when viewed in incident light (see

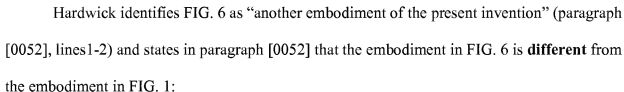
paragraph 57, lines 1-3), wherein a pattern formed by repeating structures acts as the moiré analyzer (see fig. 6).

In rejecting claim 16, the Examiner has combined features of two different embodiments taught by Hardwick. In the first embodiment, Hardwick discloses a substrate 10 formed from a “clear plastic material” with a security device 20 on the lower surface 11 covered by two layers of opacifying ink 13, 14. See FIG. 1 of Hardwick, which is reproduced below. The surface 12 of the substrate 10 opposite the security device 20 also has two layers 15, 16 of opacifying ink



with a half-window 18 through the two layers 15, 16 for viewing the security device 20. See paragraph [0033] and FIG. 1. Hardwick discloses that the security device 20 can be moiré patterns (paragraph [0022]). The Examiner has cited paragraph 37 of Hardwick and found that security device 20 anticipates the “at least one optical security element” in “element i)” of Applicant’s claim 16.

The Examiner then goes on to find “element ii)” and “element iii)” of Applicant’s claim 16 are disclosed in a second embodiment taught by Hardwick, which is illustrated in FIG. 6 of Hardwick (reproduced on the following page).



(Emphasis added.)

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FIG. 1 is absent from FIG. 6. One skilled in the art would understand that Hardwick does not teach or suggest the inclusion of “security device 20” in the embodiment shown in FIG. 6.

However, contrary to the unambiguous teachings of Hardwick, the Examiner has found that FIG. 6 teaches an embodiment that includes “first pattern 40” and “second pattern 50” in addition to “security device 20” of FIG. 1. There is no teaching or suggestion in Hardwick that would lead one of ordinary skill in the art to combine “security device 20” of FIG. 1 with “first pattern 40” and “second pattern 50” of FIG. 6, nor does the Examiner provide any explanation of why one of ordinary skill in the art would combine the two embodiments to arrive at the object of value in claim 16.

The essential difference between claim 16 and Hardwick is that Hardwick does not disclose three moiré layers. One skilled in the art would understand that the half-window 18 in FIG. 6 of Hardwick is clearly not a moiré layer. An observer, viewing the device of FIG. 6 of Hardwick from side A or side B in **incident light**, would not see a **moiré image** and will only see a moiré image in **transmitted light**. In contrast, an observer viewing the object of value in claim 16 (see Applicant’s FIGs. 5b and 5c above) will see a moiré image in both **incident light and transmitted light**.

The security device taught in Hardwick’s FIG. 6 is a “front-to-back registration device,” i.e., a device designed for transmitted light (see Hardwick paragraphs [0023], [0052] and [0053].) Such front-to-back registration devices have a symbol or design printed somewhere on each side of a substrate (such as a bank note) in the same place. When the note is held up to the

light the two symbols or designs come into registration and form another identifiable symbol. A skilled person would not use Hardwick's security device for an application in incident light. Thus, a skilled person would not be guided to the subject matter of Applicant's claim 16.

In paragraphs [0052] and [0053], Hardwick describes the device in FIG. 6 as "a front-to-back registration device." As stated above, in a "front-to-back registration device," a symbol or design is printed somewhere on each side of a substrate (such as a bank note) in the same place. When the note is held up to the light the two symbols or designs come into registration and form another identifiable symbol. Hardwick teaches in paragraph [0053] that: "When the security documents 1 is viewed in transmission from position A, and possibly also from position B, the combination of the two sets of lines 41 and 51 can product a Moire pattern due to interference effects." There is no teaching or suggestion by Hardwick that the device can produce a moiré image in incident light. In contrast, the object of value in Applicant's claim 16 produces two different moiré images in transmitted and incident light. See Applicant's FIGs. 5b and 5c reproduced above.

For the reasons discussed above, claim 16 is not anticipated by Hardwick. Moreover, claims 17-21, 23, 25 and 30, which depend on claim 16, also are not anticipated by Hardwick for the same reasons. Accordingly, the Applicant respectfully requests that the Examiner withdraw the rejection of claims 16-21, 23, 25 and 30 as anticipated by Hardwick.

Claim Rejections – 35 USC § 103

Claims 7 and 22 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Hardwick in view of U.S. Patent No. 4,892,336 to Kaule, et al. (“Kaule”), which discloses an anti-falsification document having a security thread. Section 6 on page 7 of the Office Action states that:

Hardwick discloses the object of value according to claim 1, but fails to disclose the first layer comprising a partially shaped thin film layer system which produces a color change effect by means of interference” and that “Kaule teaches a first layer comprising a partially shaped thin film layer system which produces a color change effect (see col. 5, lines 11-14).

Claim 7 has been cancelled. Claim 22 requires the color change to be produced by “interference,” which is the addition (i.e., superposition) of two or more light waves that result in a new light wave pattern. The thin film layer system in claim 22 produces changes in color by varying the thicknesses and densities of the layers to alter the light waves passing through the layers. In contrast, Kalue discloses that: “If the stripes are, for example, individual stripes of color with different coloration, the security thread changes its color when the document is slightly tilted.” (Col. 5, lines 11-14.) Thus, the color changes in Kalue result from the different colorations of the stripes and not by interference.

Moreover, claim 22 depends on independent claim 16. As discussed above, Hardwick does not teach or suggest the object of value in claim 16 and Kalue does not overcome this deficiency. Accordingly, claim 22 is not obvious in view of Hardwick and Kalue.

Claims 9 and 24 have been rejected under 35 U.S.C. 103(a) as unpatentable over Hardwick in view of U.S. Patent Application Publication No. 2003/0003323 to Murakami et al. ("Murakami"), which discloses particles emitting fluorescence after irradiation with infrared rays. Claim 9 has been cancelled. Murakami only teaches fluorescent particles and does not overcome the deficiencies in Hardwick that are discussed above. Accordingly, claim 24 is not obvious in view of Hardwick and Murakami.

Claims 11-13 and 26-28 have been rejected under 35 U.S.C. 103(a) as unpatentable over Hardwick in view of U.S. Patent No. 5,712,731 to Drinkwater et al. ("Drinkwater"), which discloses a security device that includes an array of microimages that are viewed through a corresponding array of microlenses generates a magnified image. Claims 11-13 have been cancelled. The Examiner has found in section 8 on page 9 of the Office Action that Hardwick "fails to disclose the second layer being part of a transfer layer of a transfer film which is applied to the first layer or the side of the carrier layer which is in opposite relationship to the first layer." The Examiner has cited Drinkwater as teaching these features. However, Drinkwater does not overcome the deficiencies in Hardwick that are discussed above. Accordingly, claims 26-28 are not obvious in view of Hardwick and Drinkwater.

Claims 14 and 29 have been rejected under 35 U.S.C. 103(a) as unpatentable over Hardwick in view of U.S. Patent Application Publication No. 2003/0137145 to Fell et al. ("Fell"), which discloses an article having a security device and a verification means, wherein the verification means is brought into register with the security device to authenticate the article. Claim 14 has been cancelled. The Examiner has found in section 9 on page 11 of the Office

Action that Hardwick “fails to disclose a loose moiré analyzer.” Fell has been cited as teaching “a loose moiré analyzer.” However, Fell does not overcome the deficiencies in Hardwick that are discussed above. Accordingly, claim 29 is not obvious in view of Hardwick and Fell.

Conclusion

The Applicant submits that the arguments made herein clearly distinguish claims 16-30 from the cited prior art references. Moreover, the cited prior art references (either alone or in combination) do not teach or suggest the use of a moiré pattern in combination with two moiré analyzers to generate two different moiré image as required by claims 16-30. Accordingly, the Applicant respectfully requests that the rejections of the claims be withdrawn and the claims be allowed.

If the Examiner has any questions relating to this Amendment, the Examiner is respectfully invited to contact Applicant’s attorney at the telephone number provided below.

Respectfully submitted,

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